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Date: March 25, 2005

Michael Navarro

Docket No. DLH1.PAU.02 **Patent**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	David Henty	Examiner:	Srilakshmi K. Kumar
Serial No.:	10/003,778	Art Unit:	2675
Filed:	October 31, 2001		
Title:	Computer System with Passive Wireless Mouse		

APPELLANT'S BRIEF ON APPEAL

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with the Notice of Appeal filed on October 25, 2004, Appellant respectfully submits statements and arguments required by 37 CFR § 41.37, along with the requisite fee. A three (3) month extension of time is requested and the appropriate fee is submitted herewith. If any further fee or extension may be required for consideration of this Appeal Brief, such is hereby requested. Please charge any deficit or credit any surplus to Deposit Account No. 01-1960.

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(I) REAL PARTY IN INTEREST

David L. Henty, applicant.

(II) RELATED APPEALS AND INTERFERENCES

None.

(III) STATUS OF CLAIMS

Claims 1 - 12 are pending. Claims 1 – 12 stand rejected. The rejection of Claims 1 – 12 has been appealed.

(IV) STATUS OF AMENDMENTS

No amendments were filed subsequent to final rejection.

(V) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention as set out in independent claim 1 is directed to a wireless mouse and reader combination employing one or more passive transponder circuits in the mouse which are coupled to an antenna and responsive to a two dimensional position (XY) encoder. Passive transponder circuit(s) require an interrogating field (as set out in claim 1) which is modulated as opposed to active driving of an RF transmit antenna as in conventional RF transmission. Passive transponder circuits are well known from RFID (Radio Frequency Identification) applications which employ tuned circuits which are tuned and detuned under control of an IC to modulate an RF interrogating field with a unique code stored in the IC. In the present invention the

passive transponder circuit is responsive instead to the XY encoder in the mouse. This is described in relation to Figure 3 at page 9, line 15 – page 10, line 10 of the specification and in relation to a specific embodiment shown in Fig. 19A and 19B at page 21, line 16 – page 23, line 4 of the specification. Specifically, in the embodiment of Fig. 19A and 19B circuit elements on each of X and Y encoder wheels may tune and detune a passive transponder circuit as the wheel turns. (This is set out in dependent claims discussed below). The reader detects the mouse motion from the effect of the transponder circuit(s) on the interrogating field.

Independent claim 8 is directed to a computer system employing a monitor, processor, wireless mouse and a reader. The overall computer system is illustrated in Figure 1B. The wireless mouse and reader are generally as set out in claim1, and the above discussion applies.

Independent claim 9 is directed to a method of wireless transmission of data between a wireless mouse and a reader employing modulation of an interrogating field using a tuned circuit in the mouse, the tuned circuit incorporating an XY encoder. This method is described in the specification at page 9, line 15 – page 10, line 10 and in relation to a preferred embodiment at page 21, line 16 – page 23, line 4 of the specification.

(VI) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Final Office Action contained a single ground of rejection. The Examiner rejected claims 1 – 12 under 35 USC 103(a) over Liu et al. and Gershenfeld et al. The Examiner stated it would be obvious to combine these two references to result in the claimed invention.

(VII) ARGUMENT

A. Independent Claims 1 and 8

The subject matter of these claims has been summarized above.

The Liu et al. reference is directed to a wireless mouse which derives power from a proximate antenna in a mouse pad or "baseboard" 10. Other than deriving power from the baseboard rather than a battery the operation of the mouse circuitry is apparently simply that of a conventional wireless mouse. The wireless mouse transmission circuitry is shown in the bottom half of Figure 4 and is the same as a conventional RF transmission circuit. A signal modulator is used to drive a transmit antenna as in a conventional RF transmitter. There is thus no disclosure of a passive transponder circuit as acknowledged by the Examiner.

The Gershenfeld et al. reference is directed to a sensor which employs a material which is altered in its electrical or magnetic properties in response to an external factor such as an applied force. By incorporating this sensor structure in an LC resonator circuit, the changing material properties alter the circuit response allowing the sensor to

be read out remotely. The Examiner equated this circuit with the claimed passive transponder circuit.

The Examiner stated that it would be obvious to combine Gershenfeld et al. and Liu et al. to arrive at the present invention. However, Applicant is unable to understand the Examiner's reasoning behind this proposed combination which appears to be pure hindsight. Gershenfeld et al. is directed to using the unique properties of a material responsive, e.g., to force or temperature, as a sensor. Applicant cannot see how such a sensor or such a material could be combined with Liu et al.. Also, Gershenfeld's read out circuitry is specifically designed to read out the changing material properties to sense the force or temperature and is not a circuit which could be readily substituted in Liu et al., if at all. Furthermore, although, as noted by the Examiner, Gershenfeld et al. briefly refers to an application as a wireless computer input device, <u>no details are provided</u>. The only discussion on data transfer is for an application as a modem (col. 8, l. 52). Notably, specific detail <u>is</u> provided on sensor applications which more reasonably correspond to the teachings of Gershenfeld et al. Clearly if Gershenfeld et al. could have provided any clear teaching of a wireless computer input application other than a modem, more detail would have been provided.

In summary, it is unclear to Applicant how Gershenfeld et al. could possibly be combined with Liu et al. Accordingly, it is respectfully submitted that there is no support for the proposed combination other than hindsight use of the teachings of the present invention.

B. Dependent Claim 3

Dependent claim 3 specifies that the passive transponder circuit is tuned and detuned by circuit elements on XY encoder wheels in the mouse. If somehow the force and pressure sensitive materials of Gershenfeld et al. were incorporated in a mouse as in Liu et al., nonetheless the structure of claim 3 would not be the logical result. Instead some type of force or pressure sensing XY encoder would seem the only possible result (for example, like the force controlled "mouse" buttons found on some laptop computers). Claim 3 clearly excludes such a structure. Therefore, it is respectfully submitted that the subject matter of claim 3 is patentable over the cited references independently of claim 1.

C. Dependent Claim 4

Dependent claim 4 depends from claim 3 and specifies that the circuit element on the XY encoder wheel couples magnetically to the passive transponder circuit(s). The Examiner pointed to a reference in the Gershenfeld et al. to use of magnetic sensor coils (column 6, lines 30 – 45) as rendering this feature obvious. However, once again this teaching is directed to force or pressure sensing and in no way is suggestive of tuning/detuning a tuned circuit using a rotating encoder wheel having a magnetically coupled element. Therefore, claim 4 further distinguishes any possible combination of the references and is independently patentable over the references.

D. Dependent Claim 5

Dependent claim 5 also depends from claim 3 and specifies that the circuit element on the XY encoder wheel couples capacitively. The Examiner simply repeated the reasoning for the rejection of claim 4 even though the cited section of the Gershenfeld et al. reference does not mention capacitive coupling specifically (although capacitive effects are mentioned in the next paragraph). This serves to illustrate the Examiner's hindsight motivated reliance on the Gershenfeld et al. reference without a careful interpretation of its true teachings. Accordingly, it is respectfully submitted claim 5 further and independently distinguishes the cited references.

E. Dependent Claim 6

Dependent claim 6 depends on claim 1 and recites that the interrogating field has first and second frequencies and that first and second passive transponder circuits are resonant at these respective frequencies. This allows the X and Y encoders to modulate the interrogating field at separate frequencies (see claim 11 discussed below). Applicant fails to find any basis for the Examiner's conclusory rejection of this claim and it is respectfully submitted this rejection further emphasizes the failure of the Examiner to carefully review the teachings of the Gershenfeld et al. reference.

F. Dependent Claim 7

Dependent claim 7 depends from claim 6 and recites that separate antennas are provided in the mouse. This reduces potential interference between the X and Y modulation of the interrogating field. The Examiner relied on column 4, lines 25 –

47 of Gershenfeld et al. as disclosing this feature. However, that reference is to two interrogating coils whereas the claimed two antennas are in the mouse. Therefore, this disclosure has nothing to do with the claimed feature. Again the conclusory nature of the rejection without explanation of motivation in the references for providing this feature emphasizes the purely hindsight nature of the rejection.

G. Independent Claim 9

Independent method claim 9 was rejected on the same grounds as independent claim 1 and 8 and the above reasons why the proposed combination is not well founded apply equally to this rejection. Nonetheless, the method claim language recites in somewhat different language that the present invention employs a tuned circuit incorporating an XY encoder to encode XY motion of a mouse in a modulated return field. Even if some combination of the references is found to sustain the rejection of claim 1 and 8, nonetheless the combination would not reasonably include modulating a return field in this manner. Accordingly, it is respectfully submitted claim 9 should be given independent consideration should some type of combination of the references be sustained by the Board.

H. Dependent Claim 10

Dependent claim 10 depends from method claim 9 and clarifies that the encoder motion tunes and detunes the tuned circuit in the mouse. It is respectfully submitted the discussion of the rejections of the structure claims, and in particular claim 3, points out the weakness of the combination of the references as applied to tuning and

detuning of a tuned circuit in response to movement of an encoder. However, the different wording of the method claim language warrants independent consideration of the patentability of this claim.

I. Dependent Claim 11

Dependent claim 11 depends from claim 10 and recites that the "interrogating field includes first and second frequencies and wherein said tuned circuit comprises first and second circuits resonant at said first and second frequencies and separately responsive to X and Y encoder motion, respectively". Again, it is respectfully submitted the discussion of the rejections of the structure claims points out the weakness of the combination of the references but the different wording of the method language warrants independent consideration of the patentability of this claim. In particular, the above discussion of the deficiencies of the rejection of claim 6 generally apply, however, claim 11 clarifies that the frequencies correspond to X and Y motion (and also the limitations depend from the different method claims 9 and 10).

J. Dependent Claim 12

Dependent claim 12 depends from claim 11 and further recites that the "one or more antennas comprises a first antenna and a second antenna, wherein said first antenna and said second antenna are separately coupled to said first and second circuits". It is respectfully submitted the discussion of the rejections of the structure claim 7 points out the weakness of the combination of the references and applies

equally. However, again it is respectfully submitted that the different wording of the method language warrant independent consideration of the patentability of this claim.

CONCLUSION

Accordingly, it is respectfully requested that the Examiner's Final Action rejecting claims 1 - 12 be reversed.

Respectfully submitted,

Date: 3-25-05

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APPENDIX

CLAIMS INVOLVED IN THE APPEAL

1. A wireless mouse and reader combination, comprising:
 a source of an interrogating field;
 a wireless mouse having a movable XY encoder, a plurality of mouse control buttons, at least one antenna, and one or more passive transponder circuits coupled to the at least one antenna and associated with the XY encoder and plurality of mouse control buttons and providing a response to the interrogating field identifying XY encoder motion and mouse control button activation; and
 a reader including a decoder for determining the response from the passive transponder circuits.

2. A wireless mouse and reader combination as set out in claim 1, wherein said XY encoder comprises a ball adapted to rotate in response to mouse motion and X and Y encoder wheels coupled to the ball so as to respectively rotate in response to mouse motion in perpendicular directions.

3. A wireless mouse and reader combination as set out in claim 2, wherein said XY encoder wheels further comprise a circuit element coupled to said one or more passive transponder circuits so as to tune and detune said one or more passive transponder circuits in response to mouse motion in X and Y directions.

4. A wireless mouse and reader combination as set out in claim 3, wherein said circuit element comprises a circuit element magnetically coupled to said one or more passive transponder circuits.

5. A wireless mouse and reader combination as set out in claim 3, wherein said circuit element comprises a circuit element capacitively coupled to said one or more passive transponder circuits.

6. A wireless mouse and reader combination as set out in claim 1, wherein said interrogating field includes first and second frequencies and wherein said one or more passive transponder circuits comprise first and second passive transponder circuits resonant at said first and second frequencies, respectively.

7. A wireless mouse and reader combination as set out in claim 6, wherein said at least one antenna comprises first and second antennas respectively coupled to said first and second passive transponder circuits.

8. A computer system, comprising:

a monitor;

a processor;

a wireless mouse having an XY encoder, a plurality of mouse control buttons, at least one antenna, and one or more passive transponder circuits coupled to the at least one antenna and associated with the XY encoder and plurality of mouse control buttons and providing a response to the interrogating field identifying XY encoder motion and mouse control button activation; and

a reader including a source of an interrogating field applied to the antenna of the mouse and a decoder for determining the response from the passive transponder circuits.

9. A method for wireless transmission of data between a wireless mouse and a reader, comprising:

providing an interrogating field from the reader to the wireless mouse;

receiving the interrogating field at one or more antennas configured in the wireless mouse; and

modulating a return field in response to movement of an XY encoder in the mouse forming part of a tuned circuit including the one or more antennas configured in the wireless mouse to thereby encode XY mouse movement information in the modulated return field.

10. A method as set out in claim 9, wherein said modulating comprises tuning and detuning the tuned circuit in response to movement of the encoder.

11. A method as set out in claim 10, wherein said interrogating field includes first and second frequencies and wherein said tuned circuit comprises first and second circuits resonant at said first and second frequencies and separately responsive to X and Y encoder motion, respectively.

12. A method as set out in claim 11, wherein said one or more antennas comprises a first antenna and a second antenna, wherein said first antenna and said second antenna are separately coupled to said first and second circuits.